



on the surface of the country; and, to come to more recent times, the effect of the famine year 1896, when the total only just reached 27", will be permanently shown in the disappearance of a number of jheels, which have since been converted into arable land.

The following details give the rainfall for the past five years :—

	in.
1896 .....	27·10
1897 .....	30·46
1898 .....	45·92
1899 .....	35·33
1900 .....	33·43

[The data for 1901 I have not yet been able to obtain.]

From these figures it will be seen that of recent years the amount of rain experienced has been below what might reasonably have been expected, and, in consequence, many of the water-birds have to a great extent deserted us during the breeding-season.

In order to give a fairly accurate idea of the general climatic conditions of Lucknow, I insert some recorded observations for 1898, which, except for its rather heavy rainfall, may be taken as a typical year :—

Year 1898.	Rainfall.	Thermometer in shade.		Bar.	Humidity.
Months.	Inches.	Max.	Min.	Mean.	Sat.=100.
January .....	0·	77·6	46·0	29·79	71
February ....	4·15	73·5	51·5	29·65	75
March .....	0·01	91·5	58·7	29·65	46
April .....	0·05	96·6	66·5	29·48	36
May .....	1·52	106·6	77·6	29·42	43
June .....	7·77	96·1	79·3	29·32	67
July .....	9·02	90·6	79·0	29·30	84
August .....	14·08	88·2	78·0	29·35	85
September....	5·42	89·0	73·1	29·49	81
October .....	3·71	90·0	67·5	29·65	70
November....	0·00	81·5	51·7	29·72	73
December ....	0·19	75·7	49·1	29·77	73

In this table I have not included the highest tempera-

A characteristic of Oudh is its mango-groves (*Mangifera indica*), which are so numerous that they give an appearance of the horizon being bounded by a continuous forest. These groves, being in most cases free from brushwood and undergrowth, harbour no game, but afford cool retreats to man and beast in hot weather.

Another special feature of the Division is the presence of usar plains. These lands, being full of efflorescent salts, rendering them incapable of cultivation, are arid wastes, producing scanty herbage, on which the black-buck (*Antelope cervicapra*) is always to be found. Mr. Reid, in discussing the possibility of utilizing these tracts, says:—"The Arabian date-palm would probably grow on them, and would be an invaluable tree in famine times, as its fruit would not then be, as it usually is, destroyed, when ripening, by excessive rain. It would require some little attention at first, until its long straight root got deep into the soil: after that no tree is more capable of taking care of itself."

It is said that these saline plains encroach on the adjoining arable land, but the increase of the area under cultivation causes me to be sceptical as to the truth of this statement.

The Division is practically a dead level, but towards the Gogra in the north, and the Ganges in the south, there is a gentle, but perceptible, slope.

"These silent highways have much in common. They are more or less fringed with tamarisk [*jhao*] and grass jungles, resorted to by numerous nilgai [*Boselaphus tragocamelus*] and pigs [*Sus indicus*]; the Gangetic porpoise [*Platanista gangetica*] is found in both; tortoises and crocodiles [*Crocodilus palustris* and *Gavialis gangeticus*] abound, and, excepting the Black Partridge [*Francolinus vulgaris*], which does not, so far as I know, occur within our limits in the vicinity of the Gogra, the avifauna of the one river is common to both."

I fancy that *Gogra* is here a misprint for *Ganges*, as I found the Black Partridge occurring in the "manjar" or "khadir" at Fyzabad, but I do not know of its being found on the Ganges.

Besides these two, the only river of any importance is

the Goomti, which flows in a well-defined winding channel almost equidistant between them, and is navigable for fairly large country boats. The only other stream of any pretensions is the Sail. There are a few so-called rivers, but none of them are more than monsoon-filled nullahs, which are dry during the hot weather. During the rains, however, some of them assume considerable proportions. "The Kalyani, for instance, in the rain of 1872, was 269 feet broad, where it is crossed by the railway in the Barabanki district, and 33 feet deep, with a velocity of 5.74 miles per hour, and a discharge of 51,540 cubic feet per second." But during the dry weather, with the exception of the four first named, all the so-called rivers are but sun-baked ravines with here and there a stagnant pool.

The cost of irrigating by the waters of these rivers, except the Goomti, is, or is supposed to be, prohibitive, and, in the case of the Ganges, sanctity prevents its being put to all the uses it might. The cultivator gets the bulk of his water from wells, jheels, and tanks, which he trusts the yearly rainfall to fill up for him. Should, therefore, the supply fail, scarcity, if not actual famine, is almost certain to result. These jheels are very numerous, and in many instances are fine expanses of water, which in the cold weather teem with wild-fowl. They are particularly numerous about Mohanlalganj, Sehsindi, Rahimabad, and Itaunja in the Lucknow district; about Ajgaen, in the Unao district; and in the tahsils of Daryabad, Ram Sanehi Ghat, Dewa, and Nawabgunj in the Barabanki district. These jheels are usually situated in the middle of some usar plain surrounded by dhak, grass, or corounda-jungle, though of late years, owing to the destruction of the brushwood, they are of a more open nature than they formerly were.

The dry year of 1877 caused a remarkable change to take place in these jheels, and many have ever since been more or less metamorphosed in character, while their area has in too many instances been contracted. Much of the aquatic flora, moreover, peculiar to these jheels disappeared during the three deficient rainfalls of 1876-78, and has in many instances failed to re-establish itself.

But, as Mr. Reid wrote, "the destruction of the flora would not much matter were it not that the singhara plant has taken its place." The famine of 1877-78 gave an immense impetus to its cultivation, which the famine eighteen years later emphasized. Doubtless from an economic point of view the fact is one for congratulation, but the effect is disastrous from a sportsman's point of view. At all hours of the day the cultivators may be seen wading or floating about on primitive rafts attending to their duties, whilst all night long they sit up and make the night hideous in their endeavours to keep off the Geese. Many a jheel famous in the old days for its enormous bags is thereby rendered useless. In certain years some species of wild-fowl are more numerous than others, and these again may disappear for a time without any apparent cause. Doubtless it is in the main climatic, but the notes that I have collected on the migration of our birds are not sufficient for drawing up any definite conclusions. One strange thing, however, is the scarcity of numerous birds recorded by Reid as "common," e. g. the Glossy Ibis (*Plegadis falcinellus*) and the Common Crane (*Grus communis*), of which I have seen the former once, the latter never; whilst, on the other hand, he has not recorded several species which are now not infrequently met with. It is very difficult to make a proper use of the words "common" and "rare." Often birds are said to be "rare" when they should rather be classed as "local." Thus, though I cannot recollect ever having seen the Flamingo (*Phænicopterus roseus*), I know that it occurs in considerable numbers on jheels towards Sandila; the Demoiselle Crane (*Anthropoides virgo*) I never saw till last year, when I came upon *hundreds* on some shallow jheels in the Rai Bareli district, and a few days afterwards I saw a flock passing high over Lucknow, evidently going to join their friends. Railways have also exercised a baneful effect on the fauna of the country. There is less virgin ground than there was twenty, fifteen, even ten years ago, and every season sees it diminish still more. A great deal of wanton, or rather I should say irresponsible, slaughter of game, and, in fact, birds and animals generally, is carried on. Much of this destruction

is not immediately apparent, and it is often only by the merest accident that it is discovered. The principal offenders are the lower caste Hindus, Chamars, Pasis, Ahirs, and Bhatas, the Mahomedan shikari, and the poorer classes of Europeans, Eurasians, and native Christians. Numbers of gun licenses are issued in India, nominally to protect the crops; but no one, except the man who will not see, ever supposes that a native fires off shots to scare animals: shouts and yells and hand-clapping do quite as much good, and at a far cheaper rate. Were the gun-barrels for crop-protection reduced to fifteen or eighteen inches, we should have fewer weapons slaughtering the living creatures, male, female, and young without discrimination, in and out of season. It is a matter for congratulation that the Government are shewing signs of awakening to the seriousness of the situation, and are desirous of taking steps before it is too late. Unfortunately, political and pseudo-sentimental reasons are often allowed to stand in the way of reform. The native press has only to hint that the Indian is being unfairly treated to call forth a storm of indignant protest from well-meaning people in England who are totally ignorant of the East and its ways, and are unable to form a proper estimate of the views of both parties. The European is constantly being forbidden to interfere with certain species which the native cherishes, and it does not seem too much to ask that he in his turn should be made to refrain from destroying birds and animals wholesale during the breeding-season.

It now but remains for me to give a list of those birds which Mr. Reid and I have found existing in and around the city of Lucknow. That the list is incomplete I do not for a moment deny, but in extenuation of deficiencies I would remind those who happen to glance at these notes that, not being a Government official, I have no camping opportunities, and, beyond an occasional day or two of shooting on the jheels or maidans, I am rarely able to stay more than a few miles from my bungalow. Under these circumstances I cannot claim to have discovered the occurrence of more than some seventeen or eighteen species in

addition to Reid's original list. The name and number attached to each species is that used in the volumes on 'Birds' by Messrs. Oates and Blanford in the 'Fauna of British India.'

Species marked with an asterisk are those which have not previously been recorded from Lucknow.

*List of Species, with Notes.*

No. 4. CORVUS MACRORHYNCHUS. *Jungle-Crow.*

Kowa; Bara Kowa [H. Lucknow]. Raven [Anglo-Indian].

The Jungle-Crow is very common, though not so numerous as its smaller cousin. It is to be seen almost everywhere, in Civil Lines, Cantonments, round native huts, and far away in the jungle. It breeds from the middle of February to May, the great majority laying in March, and building a compact stick nest, *always*—according to my experience—lined with human or horse hair. In nine cases out of ten the nest is in a mango, and is often well concealed, but I have notes of some in the cork, fir, pepal, and sheshum, and the late Mr. George Reid states that the bird is very fond of tamarind trees. The largest number of eggs that I have ever found is four, and two or three hard-set eggs or young are not uncommon. My earliest dated egg is Feb. 28 and the latest May 7.

The average length of a large number of Lucknow eggs is  $1''\cdot74 \times 1''\cdot4$ .

Although there is only one species of this Crow in India, yet one cannot help contrasting it with the Himalayan variety—in my opinion a much finer bird than its miserable, bedraggled, half-starved representative in the plains below.

Amongst my papers I find a curious note given me by Mr. J. Spence, one of the Assistant-Masters of La Martinière College. Whilst rowing one evening on the river, this gentleman was attracted by a curious noise, and on turning round saw one of these birds outside a Sand-Martin's hole. Every now and then it would utter a call, and if, as my informant expressed it, any poor little half-fledged Sand-

Martin was fool enough to come to the mouth of the hole to find out what was up, it was promptly seized and devoured.

Mr. A. O. Hume and others state that the Koel sometimes lays its eggs in the nest of this bird; but I fancy that it rarely does so here, and the Black Cuckoo scarcely ever puts in an appearance much before the end of the second week in April, by which time nearly every Jungle-Crow has hatched its eggs.

No. 7. *CORVUS SPLENDENS. Indian House-Crow.*

Kowa [H. Lucknow].

The House-Crow with its glossy black and grey plumage is too familiar a bird to need any description. It is a general scavenger, aiding the Kites, Vultures, and Jungle-Crows. Mr. George Reid says that "it robs nests, if not habitually, at least occasionally, for I have more than once seen it despatching eggs with great gusto."

No bird, not even the famous Jackdaw of Rheims, is half so impudent. Often whilst the Martinière boys—some 250 or more—have been actually sitting at meals, I have seen Crows come through the open windows and snatch scraps off the table before anyone could touch them. When once the signal to dismiss had been given, the Crows would dart in instantly, and the Kitmatghars would be seen rushing round to drive them away from what they (the natives) looked upon as their lawful perquisites.

This Crow breeds in numbers during the rains. Mr. Reid says "very generally in July and August"; but nearly all my eggs, and I have taken dozens, have been procured during the month of June.

It breeds on any tree, but I think for choice on the babools along the railway-line. The nest is composed of an outer layer of sticks, the thornier the better, lined inside with grass—*never* with hair, as is invariably the case with *C. macrorhynchus*. The eggs are usually four in number, though occasionally I have taken five. In the nests of this bird the hen Koel (*Eudynamis honorata*) lays her eggs. I have taken sometimes one, sometimes two, Koel's eggs



together with from two to four of the Crow. On one occasion I found a nest which contained two fresh Koel's eggs but no Crow's. It is very curious to notice the dislike of the House-Crow for the Koel, which it pursues relentlessly; the Jungle-Crow, on the other hand, is seemingly quite unaffected by a sight of the speckled lady. Like the majority of the Crow tribe, the eggs of *C. splendens* are green, marked and blotched more or less profusely with various shades of darker green and brown. In size they vary remarkably, from 1"·37–1"·80 in length, and from 0"·99–1"·11 in breadth; but the average of ten Lucknow eggs—I have been too lazy to measure more—is 1"·58 × 1"·05, which is a good deal less than in *C. macrorhynchus*.

No. 16. DENDROCITTA RUFA. *Indian Tree-Pie*.

Mootri [H. Lucknow]. Ogilvie; Long-tail Jay [Anglo-Indian boys].

The Indian Tree-Pie, with his handsome plumage of fawn and sooty brown and his long tail, is a common and well-known resident, frequenting topes, gardens, and avenues indiscriminately. When not breeding this species often goes about in small parties of five or six. Its flight is undulating. When angry, excited, or alarmed it keeps up a harsh disagreeable chattering, but its other note, something like "cog-ee cog-ee," is mellow and pleasing. Though I have never actually seen any proof myself, close observers, including my friend Mr. Benjamin Aitken, declare that this bird is a great destroyer of the eggs and young of other species. Mr. George Reid writes:—"A specimen that I shot had evidently robbed some nest, for its bill was smeared with the yolk of eggs. On another occasion I actually caught one in the act of robbing a Babbler's nest."

This bird nests from the end of March (first egg April 1st.—W. J.) to the beginning of July (last egg, July 7.—G. R.), but by far the greater number of eggs are taken between April 15th and June 15th.

The nest is a very poor sort of structure of sticks lined with grass, and is usually at the extreme tip of a mango,

although I have taken it on sheshum and pepul trees. Five is the full clutch, though three and four incubated eggs are almost as common. I have a most lovely series varying enormously in shape, size, and colour. The commonest variety is leaden white profusely blotched with red; but I have pure white examples with red, bluish green with reddish and yellowish brown, green with profuse yellow-brown blotches (like very spherical and miniature Crow's), and pale yellowish green absolutely without a mark. With regard to these last, had I not—as, indeed, I have with every clutch of the Tree-Pie—observed the bird not once, but several times on the nest, and seen the eggs lifted out from under her, I would not have believed in their parentage.

Of sixteen Lucknow eggs the average is  $1''\cdot11 \times \cdot82''$ .

No. 105. ARGYA CAUDATA. *Common Babbler.*

Hedge-Sparrow; Bush-Sparrow [Anglo-Indian boys].

“The striated Bush-Babbler is a common and permanent resident, very abundant in dhak and thorn jungle, less so in patches of thatching-grass which it also frequents, and is seen, though not habitually, in hedgerows and about gardens, and is not uncommon in the large, grass-hedged, guava-groves about Lucknow.”—G. R.

My own experience is that this bird is not common just round the station, its favourite jungle having been cleared away to a great extent for cultivation during the last decade. It is found in small parties in the tamarisk-jungle along the river, but is commoner some miles from Lucknow.

I once found its nest on March 25th, shooting the bird off three eggs, in a stunted bush near the butts on the La Martinière rifle-range. Another nest, in which there were two eggs, was robbed—apparently by crows—some days before. Both nests were neat cups, something like those of *A. malcolmi*, but were very much smaller, deeper, and lined with fine grass.

Mr. George Reid took eggs, seemingly in corounda and dhak jungle, on the following dates:—

May 5 .....	nest and 3 eggs (hard-set).
May 31 .....	„ 3 „ (fresh).
June 20.....	„ 3 „ „
July 20.....	„ 3 „ „
July 29 .....	„ 3 young (just hatched).

Average measurement of the above 12 eggs ..... ·81" × ·62"

Measurement of smallest egg..... ·77" × ·60"

„ largest egg ..... ·88" × ·75"

The eggs, like those of *A. malcolmi* and *Crateropus canorus*, are glossy blue, without spots, and often very round.

No. 107. ARGYA MALCOLMI. *Large Grey Babbler.*

Bhaina [H. Lucknow]. White-tailed Magpie [Anglo-Indian boys].

It is most curious that Reid should not have found this species in Lucknow. It seems very capriciously distributed over Northern India, being absent in many places and numerous in others without any apparent cause. It is not a bird that can be overlooked by an ornithologist, for its cry, which is very harsh and characteristic, betrays it at once, and, as it flies, the whitish colour of the lateral tail-feathers is most conspicuous. I find it common in certain spots—the La Martinière Park being one—and take nests every season. I have found eggs on dates too numerous to mention between March 3rd and June 30th. The greater number of nests have been on babool-trees, in which case they are always solid structures of thorn carefully lined with grass. I have also found the bird breeding on the mango and the sheshum, when the nest lacked its outer covering of thorn, but was always a neater structure than that of *Crateropus canorus*. The full number of glossy blue eggs is four, but three young are not uncommon.

On March 21st, 1896, I found a nest of this bird at the top of a mango, containing three fresh eggs and one hard-set. The latter was blunt at both ends like a Dove's, the blue tint was much deeper, and I am certain that it belonged to the Common Hawk-Cuckoo (*Hierococcyx varius*). Unfortunately it has mysteriously disappeared from my collection.

Average of 10 Lucknow eggs .....	·97" × ·68"
Measurement of largest egg .....	1"·06 × ·66"
„ smallest egg .....	·94" × ·75"

No. 110. CRATEROPUS CANORUS. *Jungle-Babbler*.

Sat-bhai; Ghoughai [H. Lucknow]. Seven-Sisters; Magpie [Anglo-Indians].

The Sparrow, the Crow, the Mainah, and the Jungle-Babbler are the four commonest and noisiest species in Lucknow. The last-named may always be seen in parties of seven or eight—whence the popular name—hunting for insects amongst the leaves under the trees of our parks and gardens. All the time the whole assembly keep up a confused chattering, which, though not pleasing, is not so intensely disagreeable as the cry of *A. malcolmi*.

“When the Shikra, as it sometimes does, makes a swoop at a party of Babblers, it is curious to observe how silent they become, sneaking off singly to the tops of trees, where they hide for some time, and then begin to file away to some other locality, where they still keep very quiet until well engaged in the business of feeding again.”—G. R.

Breeds from March to June (to September.—G. R.), making a poor nest of grass in almost any tree—orange, citron, guava, mango, palm, sheshum, &c.,—rarely at any great height from the ground. Eggs three or four—I once found six,—deep blue and very glossy.

Average of 12 Lucknow eggs .....	·99" × ·77"
Measurement of largest egg .....	1"·05 × ·79"
„ smallest egg .....	·95" × ·76"

The Hawk-Cuckoo (*Hierococcyx varius*) and the Pied-crested Cuckoo (*Coccyzus jacobinus*) undoubtedly select the nests of the three Babblers here given in which to deposit their eggs, but it is almost impossible to identify them with certainty. Elliptical or spherical eggs will *probably* belong to one or other of these Cuckoos, and that, as a rule, is about all you can say for them.

No. 139. PYCTORHIS SINENSIS. *Yellow-eyed Babbler*.

Reed-Warbler [Anglo-Indian boys].

“The Yellow-eyed Babbler is very common and a permanent

resident, rather more abundant during the cold weather than in the hot and rainy seasons. It is fond of grassy bush and dhak-jungle, but fonder still of patches and rows of tall thatching-grass, on the stalks of which, when seeding, it settles and searches diligently for insects, generally in parties ranging from six to a dozen. During the heat of the day the birds usually retire to rest in some bush overgrown with long grass, where they may be heard conversing in a low chatter. If then disturbed they make a great noise, and scuttle through the adjoining grass in all directions, becoming silent as they hide or squat, and remaining so until the intruder moves off, when they generally re-assemble in the same bush, or in some other close by. The male bird sings very sweetly, oftenest, I think, in the cold dewy November mornings."—G. R.

I have nothing to add to Mr. Reid's statements, beyond the fact that I do not consider the bird quite so common—in Lucknow, at all events—as he infers. It breeds during the "rains," but not commonly. The Martinière boys only get one nest or so every year, and they are far too clever to let much escape them.

On July 29th, 1898, Lieut. S. A. Davies, of the 2nd E. Lancashire Regiment, and I took five hard-set eggs in a beautiful nest woven into some high patowal grass near the railway-line. The structure was a deep inverted cone, and was plastered outside with spiders' webs, much after the fashion of that of the Fantail Flycatcher. The eggs, which are amongst the handsomest that I have seen, were very round, of a pinky-white ground-colour, richly blotched with deep blood-red. The bird was on the nest, but darted off every time we approached and hid in the dense grass, so that shooting her was out of the question. There is, I think, *no doubt whatever* as to the authenticity of these eggs, which are similar to a series shown me by Mr. B. B. Osmaston, taken by him in the Dún.

Average of 5 Lucknow eggs .....	·68" × ·55"
Measurement of largest egg .....	·71" × ·56"
„ „ smallest egg .....	·66" × ·55"

No. 226. *ZOSTEROPS PALPEBROSA*. *Indian White-eye*.

Babooona [H. Lucknow]. Yellow-Hammer [Anglo-Indian boys].

The White-eye is a very common bird and a permanent resident. It is of a sociable disposition and may be found in any mango-grove, avenue, or compound in small parties diligently searching the leaves for insects.

This species breeds with us from the beginning of April to the end of July, but, according to my record, June is the best month to search for their eggs. The nest, which is usually very difficult to find, is a lovely little basket of fine grass, cobwebs, and fibres, and is a perfect miniature of that of the Golden Oriole. Four is the greatest number of eggs that I have found, but three are more usual. All that I have found have been pale unspotted blue, but occasionally they are marked with darker shades of the same colour.

Average of 14 Lucknow eggs .....	·58" × ·45"
Measurement of largest egg .....	·63" × ·46"
„ smallest egg.....	·53" × ·45"

No. 243. *ÆGITHINA TIPHIA*. *Common Iora*.

Yellow-bird [Anglo-Indian boys].

This lovely little species is common, but is very shy and comparatively seldom seen. The note is very rich and loud for so small a bird, and once known is not easily forgotten. By following up the call—not an easy matter, for the Iora is no mean ventriloquist,—you may be able to catch a glimpse of a beautiful little black-and-yellow bird, with a white bar across the wing due to the white median wing-coverts.

The nest is one of the most difficult to find of any, both on account of the shyness of the parents, and also from its being most carefully hidden. So far I have only taken the eggs myself twice [June 17th, 1898; July 26th, 1901]. Nests and eggs have been brought me in April, May, and June, and Mr. George Reid took a nest and three eggs on July 16th.

This April a pair bred near my bungalow. All the regular egg-collectors were on the search for weeks, but though the Martinière boy has a genius for discovering well-hidden

nests, the birds fairly baffled both them and me. It was not until they had hatched four young successfully that they gave their secret away.

The few nests which I have seen have all been deep inverted cones of grass, fibre, &c., thickly coated outside with fibres like those of the White-eyebrowed Fantail Flycatcher, but hardly so neat. They seem to be usually concealed in creepers or under leaves, at no great height from the ground, but I have seen too few to be able to say much. The eggs, usually three in number, are a most delicate grey or pinky white, marked with thick longitudinal streaks of reddish brown, purple, or lavender. I consider them some of the handsomest to be found.

Average of 8 Lucknow eggs .....	·64" × ·54"
Measurement of largest egg .....	·75" × ·56"
"          smallest egg .....	·62" × ·52"

NO. 278. MOLPASTES HÆMORRHOUS. *Madras Red-vented Bulbul.*

Bulbul, Guldum Bulbul [H.].

This bird, although I have given it the above designation, is not the true *M. hæmorrhous*. I have examined numbers of skins and taken nests and eggs time after time, and have come to the conclusion that our type is very constant, and at the same time differs from all the Red-vented Bubluls hitherto described. The dimensions tally with those given by Oates for *M. hæmorrhous*, while the black of the crown terminates rather abruptly on the hind-neck, and is not extended along the back, as is the case with *M. intermedius* and *M. bengalensis*. On the other hand, as in the last two species, the ear-coverts are chocolate. Furthermore, I may add—although I attach little importance to this—that the eggs of the Lucknow bird which I have seen are without exception far smaller than my eggs of genuine *M. intermedius* from the Punjab. My own opinion is that the Lucknow race is the result of a hybridization between the other three species.

This Bulbul is very common all over the district, and is found away from human habitations more often than the Red-whiskered Bulbul, which evidently objects to being far

from mankind. I have taken nests from April to August on all kinds of trees. The usual number of eggs is three; they are pinkish white, spotted and blotched with claret-colour. On one occasion I took two hard-set eggs from a nest on a rafter in a bungalow-verandah.

Average of 10 Lucknow eggs .....	·87" × ·64"
Measurement of largest egg .....	·95" × ·72"
„ smallest egg.....	·75" × ·63"

No. 288. *OTOCOMPSA EMERIA. Bengal Red-whiskered Bulbul.*

Kangra Bulbul [H. Lucknow]. Conqueror Bulbul [Anglo-Indian boys].

This Bulbul is very common in Lucknow itself, less so in the district outside. It is particularly fond of such localities as the Wingfield Park, the Horticultural Gardens, and the Clock Tower Gardens. I have taken its nest in all months from the middle of March to the middle of July, but Mr. Reid seems to have got the eggs only in May. It is a neat cup of grass, fine twigs, bamboo-leaves, cotton, spider's webs, and similar materials, and is, in most cases, placed in a thick bush or creeper. I have several times found it built in one of the fern-baskets that swing in the cool damp houses of the various public gardens. I have never met with more than three eggs, which are white or pink, densely spotted and blotched with red, claret, and purple.

Average of 12 Lucknow eggs .....	·82" × ·62"
Measurement of largest egg .....	·86" × ·70"
„ smallest egg.....	·80" × ·60"

No. 321. *SITTA CASTANEIVENTRIS. Chestnut-bellied Nut-hatch.*

Brown Woodpecker [Anglo-Indian boys].

This pretty little bird, with its slaty-blue plumage above and chestnut coloration below, is very common, a pair inhabiting almost every mango-grove. It breeds in holes of trees from the end of February to the beginning of April. For a nest it usually utilizes a hole in a knot in the trunk of a mango or pepul, but I have also found more than one in neem



and jamun trees. Interiorly it is lined with little bits of leaves, and round the hole the birds stick mud mixed with a gummy resinous substance, which becomes very hard. I have often watched a pair working away at the task of closing up their selected nursery. It is rather easy to find, if you carefully watch the birds, but in nine cases out of ten the obtaining of the eggs is a matter of difficulty. Four is the greatest number that I have found. They are white, spotted or freckled—rarely blotched—with brick-red.

Average of 8 Lucknow eggs .....	·67" × 54"
Measurement of largest egg .....	·70" × ·53"
„ smallest egg.....	·65" × ·52"

No. 327. *DICRURUS ATER.* *Black Drongo.*

Hojanga, Buchanga [H. Lucknow]. King-Crow [Anglo-Indians].

The King-Crow is one of the commonest of our birds and a permanent resident, which may be met with everywhere, on the open maidan as well as in the compound or in the mango-grove. It is very fond of perching on the backs of cattle, and also upon telegraph-wires, tops of trees, and other more natural look-out places. It catches its insect-prey on the wing, returning to its perch to devour it. Crickets, grasshoppers, butterflies, &c. seem to be its chief food. It is a very pugnacious bird, more particularly during the breeding-season, and woe betide any evil-minded Crow that happens to pass within a hundred yards of the nest. It has a fair variety of notes, some harsh and disagreeable, others pleasing.

Mr. George Reid wrote:—“On one occasion, early in May, I saw what I thought was a curious sight—a Drongo cutting such antics on the wing that I never for a moment suspected that it was all the while belabouring a poor Tit or Warbler which it must have had in its talons. The liberation of the little captive fairly astonished me, but, judging from the rapidity with which it made for the nearest tree, it was more frightened than hurt.”

The King-Crow breeds from the end of April to the middle of July, but most nests will be found during the latter

half of May and the first half of June—Reid says from the 15th of June to the 10th of July. The nest is a strong neat cup of roots and grass, firmly fixed in the fork of a tree and covered over and bound to the branch with plenty of cobwebs. The eggs, three or four in number, are of three types: (a) salmon, spotted with brown, red, and purple; (b) white, spotted with various shades of red; (c) pure white.

*Spotted eggs.*

Average of 41 Lucknow eggs .....	·99" × ·72"
Measurement of largest egg .....	} 1"·00 × ·78" (broadest). 1"·06 × ·72" (longest).
„ smallest egg .....	

*White eggs.*

Average of 13 Lucknow eggs .....	·97" × ·72"
Measurement of largest egg .....	} 1"·02 × ·76" (broadest). 1"·06 × ·72" (longest).
„ smallest egg .....	

No. 330. *DICRURUS CÆRULESCENS.* *White-bellied Drongo.*

This bird is not uncommon during the cold weather in well-wooded places, but is never numerous. Its voice is infinitely sweeter than that of the Common King-Crow. I have never seen this bird consorting with cattle—in fact, I have only observed it in mango-topes, so far as I can remember. I believe that it migrates towards the end of March, as I have never seen it in the hot weather or during the rains.

No. 335. *CHIBIA HOTTENTOTTA.* *Hair-crested Drongo.*

I know nothing of this bird's occurrence here.

Mr. George Reid wrote:—"The Hair-crested Drongo can only, I think, be considered as a rare visitor during the rains. It is then occasionally brought into the market, but I have only once seen it in its wild state frequenting the outer trees of a mango-tope near Lucknow. It seems strange that it should be found here at all during the rains, and not in the cold weather."

[To be continued.]

XXVIII.—*Remarks on Audouin's Gull* (*Larus audouini*).

By Count E. ARRIGONI DEGLI ODDI.

AUDOUIN'S GULL (*Larus audouini*) may fairly be considered the rarest of the European species, for the other Gulls are sufficiently plentiful in the districts in which they breed, although they may appear only as stragglers in the south, while the subject of this article is very uncommon even in the small area to which it belongs. It is a true Sea-Gull, and Mr. Howard Saunders, the chief authority on the family, describes its habitat in this manner\* :—"Western Mediterranean, chiefly within the Tyrrhenian Sea, but as far as the Straits of Gibraltar and a little outside." It was included among Grecian species by Lindermayer †, and among those of Corfu by the Hon. T. L. Powys ‡ (afterwards Lord Lilford), while Erhard states that it winters in the Cyclades, and Canon Tristram § that it is the commonest Gull on the Lake of Galilee, though his specimens all proved to be Common Gulls. Mr. E. C. Taylor || thought that some Gulls which he saw near Cairo were of this species, and v. Heuglin consequently admitted it to his list ¶.

The most eastern locality in which Audouin's Gull has been procured is Melissa, in the Sporades, whence two examples have been sent to the Sarajevo Museum \*\*. To the westward Natterer found it at Tarifa, and it has been seen a little outside of Gibraltar. Loche has stated that it bred in Algeria, but has given no further details; it has occurred from time to time in Corsica and in Sicily, but has only once been killed on the mainland of Italy, in Liguria. It is resident on the rocky islets round Sardinia, from Spargi and Spargiotto ††, Caprera and Maddalena (Straits of Bonifacio) to

\* Cat Birds Brit. Mus. xxv. pp. 271-273 (1896).

† Die Vögel Griech. p. 177 (1860).

‡ Ibis, 1860, p. 356.

§ *Op. cit.* 1868, p. 330.|| *Op. cit.* 1867, p. 72.

¶ Orn. N.O.-Afr. Bd. ii. pt. 2, p. 1387 (1873).

\*\* E. Arrigoni Degli Oddi, Ornith., x. p. 182 (1899).

†† Lord Lilford, Ibis, 1887, pp. 280-281.

Mal di Ventre and Catalano \*, off Oristano (Western Sardinia), also in the Toro and Vacca Islands, Leghorn, and some other places. Professor Giglioli † says that no other Gull is found at Camicia Harbour, and Mr. Bonomi that it is very abundant at Porto Torres, where, however, I saw only Yellow-legged Herring-Gulls and Black-headed Gulls.

In Corsica, Audouin's Gull is apparently met with but rarely on the western coasts, but Whitehead ‡ states that he found a wounded individual during a violent storm. In a series of excellent notes, Prof. Damiani § reports that six specimens were killed on Elba in the months of January, March, May, August, and December, two of them being now in the collection of Mr. Tonietti at Porteferraio, in that island, two in mine, one in the Royal Museum at Florence, and one in the Civic Museum at Milan. I believe that the bird also occurs in the islands of Capreja, Pianosa, and Monte Cristo.

In Sicily this Gull has appeared near Catania and Palermo, and some fine specimens are preserved in the Museum of the latter town, whence also one was sent to the British Museum || (February 1886). Mr. Wright reports having seen an example in Malta; while the Ligurian specimen above mentioned was killed by Marquis Pinelli-Gentile on May 10th, 1883, at the mouth of the Cente, near Albenga, and is now in his collection. Messrs. Giglioli and Salvadori do not recognise any other Ligurian examples, but Baron Schalow ¶ attributes two which are in the Museums of Genoa to that country \*\*.

The bird has never been obtained in the Adriatic, although Count Contarini has recorded it from Venetia in error, while

\* I procured two fine specimens there myself.

† Avif. Ital. p. 430 (1886).

‡ Ibis, 1885, p. 47.

§ Avicula, 1898, p. 131, 1901, p. 1; Boll. Soc. Zool. Ital. x. p. 49 (1901).

|| Cat. Birds Brit. Mus. xxv. p. 273 (1896).

¶ J. f. O. 1877, p. 191.

\*\* (*f.*, however, Giglioli, Ibis, 1881, p. 219.

Mr. Schiavazzi has acknowledged that he was mistaken as to two specimens caught at Pirano in Istria. The latter gentleman has also mentioned an example in the Museum at Vienna, obtained by Natterer in 1815; but this may be that from Tarifa, and in any case the date is previous to Payrandeau's description of the bird in 1826. I could not find any trace of this specimen in the Museum.

Audouin's Gull was found nesting on the island of Mal di Ventre by the late Marquis Nerli, and on Toro by Lord Lilford, while it breeds on the Columbretes, in the Gulf of Valencia, and has probably been overlooked in many of the rocky islets off Sardinia, where *Larus cachinnans* is found. The eggs have been fully described by Mr. Oates in the 'Catalogue of Birds' Eggs in the British Museum' (i. p. 217).

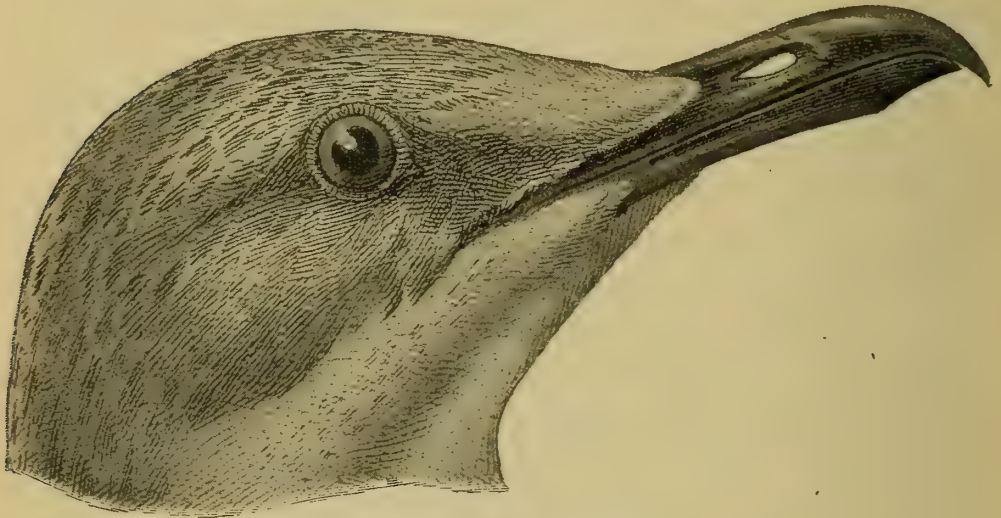
The Italian Museums and private collections which possess specimens of Audouin's Gull are the following:—

- a. Civic Museum of Milan (one specimen from Elba).
- b. Civic Museum of Genoa.
- c. Collection of Marquis Pinelli-Gentile of Genoa (the only Ligurian-killed example).
- d. R. Museum of Florence (a beautiful series of seven or eight specimens, with a young bird and eggs; all from the island of Mal di Ventre).
- e. Collection of Mr. Tonietti at Portoferraio (Elba) (two specimens from Elba).
- f. Collection of Marchioness Paulucci of Florence (one specimen from Sardinia).
- g. R. Museum of Cagliari (three adult specimens).
- h. R. Museum of Palermo (five adult specimens).
- i. Collection of Mr. J. Whitaker at Malfitano, Palermo (a beautiful series of seven or eight specimens which belonged to the late Lord Lilford).
- j. My Collection (sixteen specimens, with some immature and young birds, and also some that are half-grown, about which I shall speak further).

I shall not enter into the habits of the species, as they are sufficiently well known, but will proceed at once to describe the plumage of the young in its first dress, which I am especially anxious to put on record, as it is not given by

any author with whose work I am acquainted. For comparison I give the description of the Yellow-legged Herring-Gull in a similar state of plumage.

Fig. 12.

Head of *Larus cachinnans*.

*Yellow-legged Herring-Gull* (*Larus cachinnans*), *young male in first dress, but able to fly*.—Island of Capraja (Tuscany), June 14, 1901. Prof. Damiani [C.].

Bill blackish, horn-coloured at the end, paler at the base of the lower mandible; iris dark hazel; head and neck whitish buff, with a broad, elongated, blackish-brown central stripe, which here and there is so expanded that no light pattern is visible; darker beneath the eyes and on the auricular region; a blackish spot in front of the eye; the back, mantle, innermost secondaries, and wing-coverts almost blackish, with a broad buffish marginal edge, which is more or less suffused with grey; this is still broader and more whitish on the rump, with the two colours in great contrast; upper tail-coverts whitish buff, with blackish spots and bands; chin and throat white, a little buffish and uniform; under-parts uniform buffish grey, with large, dark, blackish centres or irregular blotches, very distinct on the sides of the neck and flanks and quite obsolete elsewhere, so that these parts appear to be uniform in ground-colour;